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ABSTRACT

This brochure provides statistical bid breakdown for Programs 1A and 2 of the Florida Schoolhouse Systems Project. Tabular information is provided on bidders, compatible building subsystems, bid tabulation by compatibility, "per school" building subsystems, nominated bidders and lump sums, and a comparison of programs 1A and 2 bids. Data presented in this document indicate that when the volume of work is of sufficient size, greater interest is developed among bidders, and the ensuing competition leads to a marked reduction in school construction costs. A related document is ED 032 723. (Author/DN)

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SCHOOLHOUSE SYSTEMS PROJECT

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STATE DEPARTMENT OF EDUCATION
TALLAHASSEE, FLORIDA

FLOYD T. CHRISTIAN, Superintendent

3rd report

SEPTEMBER 1968

EA 004 761

SCHOOLHOUSE SYSTEMS PROJECT - PROGRAM 2

STATE DEPARTMENT OF EDUCATION
TALLAHASSEE FLORIDA

□ PROGRAM 1A

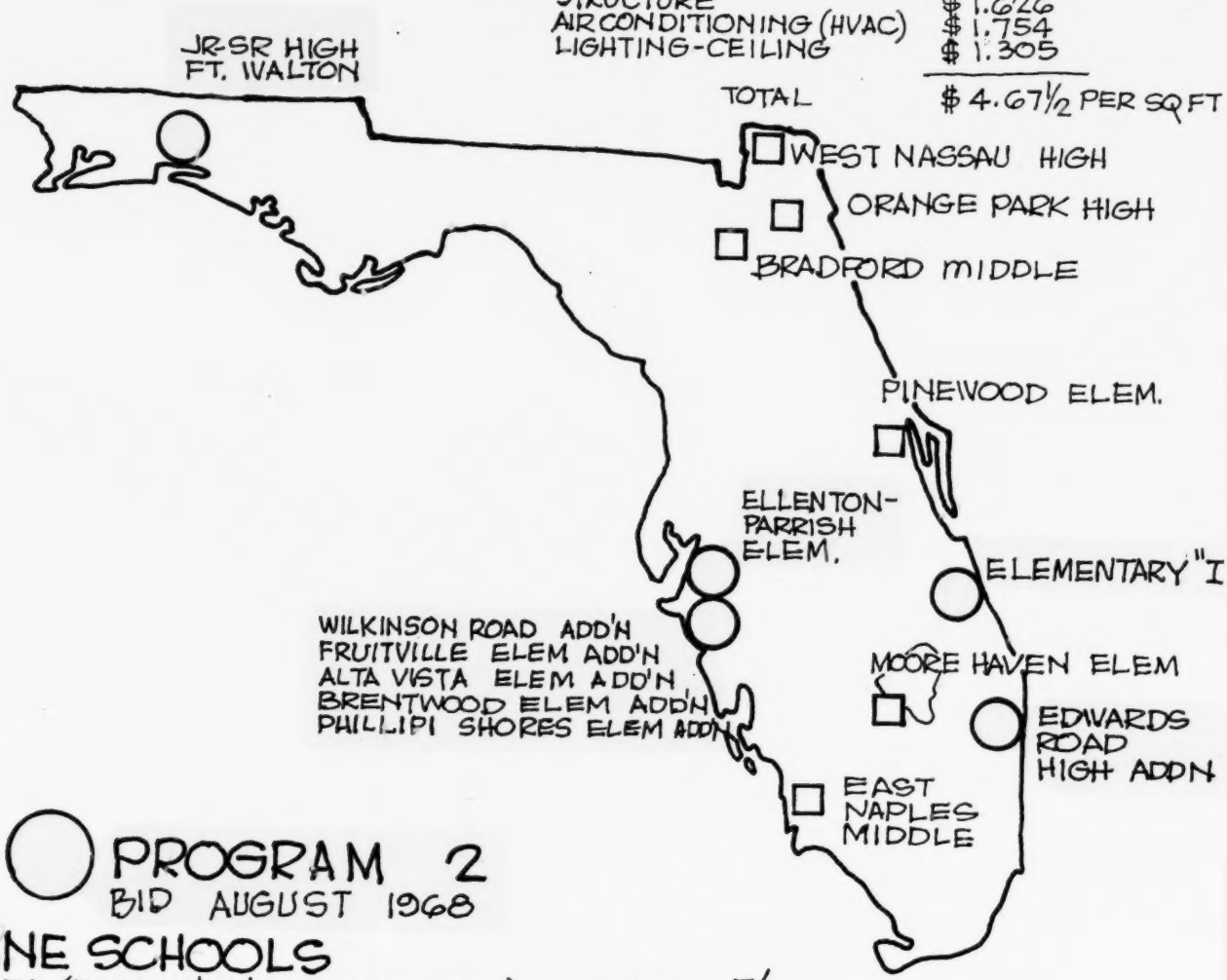
BID OCTOBER 1967

SIX SCHOOLS (ALL PROJECTS STARTED, SOME COMPL

AREA (ROOF - 5'X5' PLANNING GRID) - 278,900□

3 BUILDING SUB-SYSTEMS TYPES

STRUCTURE	$1.626
AIR CONDITIONING (HVAC)	$1.754
LIGHTING-CEILING	$1.305
TOTAL	$4.67½ PER SQ FT



○ PROGRAM 2

BID AUGUST 1968

NINE SCHOOLS

AREA (ROOF - 5'X5' PLANNING GRID) - 486,825□'

3 BUILDING SUB-SYSTEMS TYPES

STRUCTURE	$1.275
AIR CONDITIONING (HVAC)	$1.512
LIGHTING-CEILING	$0.785
SUB TOTAL	$3.572/□'

PLUS

3 ADDITIONAL BUILDING SUB-SYSTEMS TYPES

INTERIOR PART'NS	@ $0.737
CABINETS	@ $0.40
CARPET	@ $0.407
SUBTOTAL	$1.544/□'
TOTAL	$5.116 OR $5.12/□'

LIST OF BIDDERS

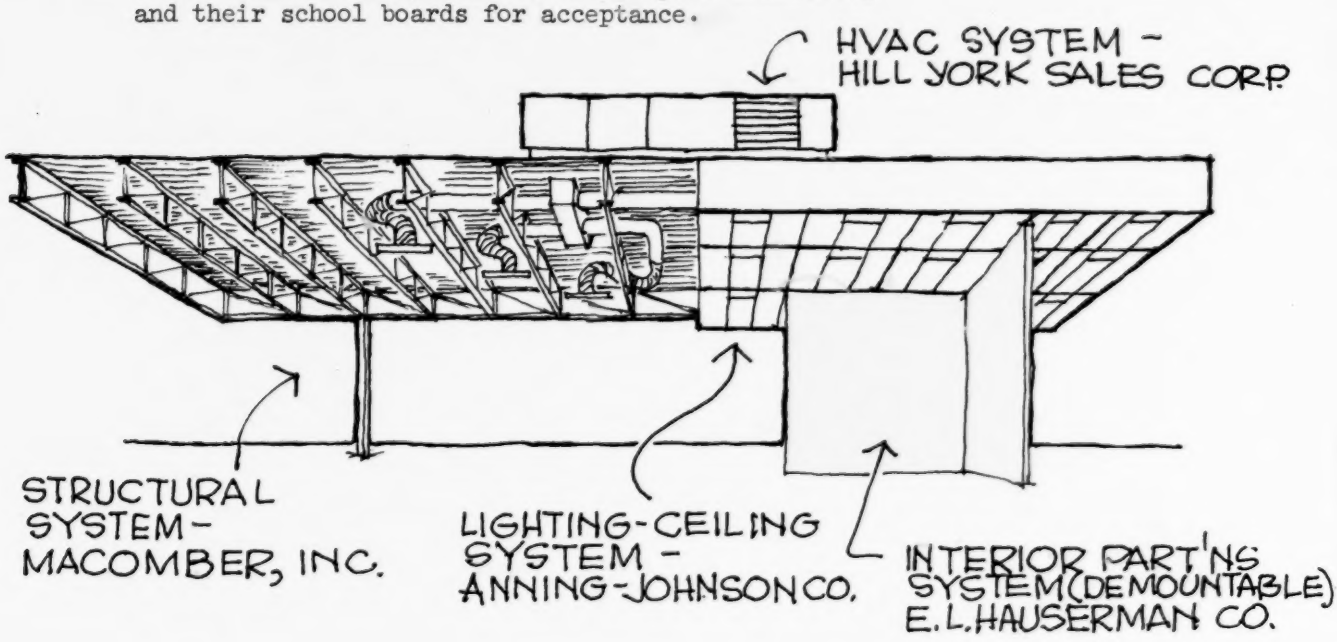
In SSP Program 2, fourteen bidders bid twenty different sub-systems products having a total of 5,760 combinations of the product. All combinations met the performance specifications.

BIDDERS	SUB-SYSTEM (PRODUCT)
Macomber, Inc. Canton, Ohio	Structure
*Romac Steel Company Fort Myers, Florida	Structure
*Hill York Sales Corporation Miami, Florida	Air Conditioning (HVAC)
Dunham-Bush, Inc. West Hartford, Connecticut	Air Conditioning (HVAC)
Lennox Industries, Inc. Decatur, Georgia	Air Conditioning (HVAC)
*Anning-Johnson Company Tampa, Florida	Lighting-Ceiling (3 product sub-systems in 14 combinations with HVACs)
*Acousti Engineering of Florida & Lotspeich Company (J.V.) Jacksonville/Miami, Florida	Lighting-Ceiling (1 product sub-system in 6 combinations with HVACs)
E. F. Hauserman Company Atlanta, Georgia	Interior Partitions (demountable)
*Anning-Johnson Company Tampa, Florida	Interior Partitions (demountable)
*Acousti Engineering of Florida Jacksonville, Florida	Interior Partitions (demountable)
*Don Myers & Associates Miami, Florida	Interior Partitions (demountable)
*Malone Products, Inc. Punta Gorda, Florida	Interior Partitions (operable panel)
Buck Taylor Manufacturers Sales Mobile, Alabama	Interior Partitions (operable panel and accordion)
Educators Manufacturing Company Tacoma, Washington	Cabinets
*Don Myers & Associates Miami, Florida	Cabinets
*Don Myers & Associates Miami, Florida	Carpet
*Miami Rug Company Miami, Florida	Carpet

*8 of the 14 are Florida Companies

REQUIREMENTS FOR COMPATIBILITY

In SSP Program 2, the first 4 of the 6 building sub-systems bid were required to "work together" or be "compatible", in order to be nominated. Some systems may work together better than others, and it therefore follows logically that the more "compatible" the various sub-systems are, the more competitive the bid. SSP nominated the following bidders and their systems to the project architects and their school boards for acceptance.


HVAC SYSTEM - HILL YORK SALES CORP.
STRUCTURAL SYSTEM - MACOMBER, INC.
LIGHTING-CEILING SYSTEM - ANNING-JOHNSON CO.
INTERIOR PARTITIONS SYSTEM (DEMOUNTABLE) E.L. HAUSERMAN CO.

Building Sub-System No. 1 - Structure
Macomber, Inc. - Modular V-Lok System
Building Sub-System No. 2 - HVAC (Air-conditioning)
Hill York Sales Corporation - ITT Nesbitt - Rooftop Multi-Zone System
Building Sub-System No. 3 - Lighting-Ceiling System
Anning-Johnson Company - AJ System
Building Sub-System No. 4 - Interior Partitions*
E. F. Hauserman Company - Doublewall System

* The interior partition performance specifications has 3 sub-divisions, demountable, operable panel and operable accordion. Judgment for compatibility of the first 4 systems was based on the demountable portion only. See (H) in "Per School" tabulation.

The following table indicates the first 20 of 1440 combinations of the bids for the first four of the six systems bid.

ESP - PROGRAM 2 BIDS TAKEN AUG. 23, 1968

TABULATION OF COMPATIBLE BUILDING SUB-SYSTEMS

ORDER	STRUCTURE BIDDER	STRUCTURE PRICE	HVAC BIDDER	HVAC PRICE	LIGHTING-CEIL'N BIDDER & SYSTEM	LIGHTING-CEIL'N PRICE	PARTITIONS BIDDER	PARTITIONS PRICE	4 BUILDING SUB-SYSTEMS TOTAL PRICE
1	M	620,611.00	H-Y	ⓐ 736,090.00	(ANNING) AJ	382,255.00	H	250,170.00	1,989,126.00
2	M	620,611.00	D-B	ⓐ 752,400.00	(ANNING) AJ	381,100.00	H	250,170.00	2,004,281.00
3	M	620,611.00	H-Y	ⓐ 736,090.00	(ACOUSTI) C-60	418,000.00	H	250,170.00	2,024,871.00
4	M	620,611.00	D-B	ⓑ 727,748.00	(ANNING) AJ	432,100.00	H	250,170.00	2,030,629.00
5	M	620,611.00	D-B	ⓐ 751,076.00	(ACOUSTI) C-60	418,000.00	H	250,170.00	2,039,857.00
6	M	620,611.00	H-Y	ⓒ 712,200.00	(ACOUSTI) C-60	467,000.00	H	250,170.00	2,049,981.00
7	R	699,900.00	H-Y	ⓐ 736,090.00	(ANNING) AJ	382,255.00	H	250,170.00	2,068,415.00
8	M	620,611.00	H-Y	ⓐ 736,090.00	(ANNING) C-60	465,472.00	H	250,170.00	2,072,343.00
9	M	620,611.00	D-B	ⓒ 735,164.00	(ACOUSTI) C-60	467,000.00	H	250,170.00	2,072,945.00
10	R	699,900.00	D-B	ⓐ 752,400.00	(ANNING) AJ	381,100.00	H	250,170.00	2,083,570.00
11	M	620,611.00	D-B	ⓐ 751,076.00	(ANNING) C-60	465,472.00	H	250,170.00	2,087,329.00
12	R	699,900.00	H-Y	ⓐ 736,090.00	(ACOUSTI) C-60	418,000.00	H	250,170.00	2,104,160.00
13	R	699,900.00	D-B	ⓑ 727,748.00	(ANNING) AJ	432,100.00	H	250,170.00	2,109,918.00
14	R	699,900.00	D-B	ⓐ 751,076.00	(ACOUSTI) C-60	418,000.00	H	250,170.00	2,119,146.00
15	M	620,611.00	H-Y	ⓒ 712,200.00	(ANNING) LUMINOUS	538,192.00	H	250,170.00	2,121,173.00
16	M	620,611.00	H-Y	ⓒ 712,200.00	(ANNING) C-60	538,192.00	H	250,170.00	2,121,173.00
17	R	699,900.00	H-Y	ⓒ 712,200.00	(ACOUSTI) C-60	467,000.00	H	250,170.00	2,129,270.00
18	M	620,611.00	D-B	ⓒ 729,524.00	(ANNING) LUMINOUS	534,472.00	H	250,170.00	2,134,777.00
19	M	620,611.00	D-B	ⓒ 735,164.00	(ANNING) C-60	534,472.00	H	250,170.00	2,140,417.00
20	R	699,900.00	D-B	ⓒ 735,164.00	(ACOUSTI) C-60	467,000.00	H	250,170.00	2,152,234.00

ⓐ includes air supply grilles, return air grilles and boots
ⓑ includes return air grillee.
ⓒ no air supply air grilles, return air grille or boots

M = MACOMBER, INC.
R = ROMAC STEEL CO
H-Y = HILL YORK SALES CORP
D-B = DUNHAM-BUSH INC

H = E.L. HAUSERMAN CO
ANNING = ANNING-JOHNSON CO.
ACOUSTI = ACOUSTI ENGINEERING/LOTSPEICH CO
AJ = ANNING-JOHNSON L/C SYSTEM
C-60 = ARMSTRONG CORK L/C SYSTEM
LUMINOUS = LUMINOUS CLG, ING. L/C SYSTEM

The following table indicates the 5,760 combinations of bid prices from the 14 bidders (some bid more than one category) of the six sub-systems in Program 2.

BIDDER COMBINATIONS

STRUCTURE	HVAC	L-C	INT. PART'NS	CABINETS	CARPETS
2 Bidders 2 Systems	3 Bidders 3 Systems	2 Bidders 4 Systems 20 Combinations	6 Bidders 7 Systems 12 Combinations	2 Bidders 2 Systems	2 Bidders 2 Systems

2 x 3 x 20 x 12 x 2 x 2 = 5,760 Price Combinations

SCHOOLHOUSE SYSTEMS PROJECT - PROGRAM 1-A
STATE DEPARTMENT OF EDUCATION - TALLAHASSEE, FLORIDA
October 12, 1967

BID TABULATION BY COMPATIBILITY

STRUCTURE		LIGHTING/CEILING		AIR CONDITIONING		TOTAL
Manufacturer	Amount	Manufacturer	Amount	Manfacturer	Amount	
(2)Macomber	$453,495	(2)Armstrong Cork	$364,000	(2)Lennox Industries	$489,400	(1)$1,306,895
Romac Steel	430,000	Armstrong Cork	364,000	Hill York	538,000	1,332,000
Houdaille-Duval-Wright	555,914	Anning-Johnson	296,287	Lennox Industries	514,970	1,367,171
Rheem/Dudley	584,989	Anning-Johnson	282,100	Lennox Industries	514,970	1,382,059
Houdaille-Duval-Wright	555,914	Armstrong Cork	364,000	Lennox Industries	489,400	1,409,314
Macomber	453,495	Luminous Ceilings	497,096	Lennox Industries	489,400	1,439,991
Romac Steel	430,000	Luminous Ceilings	497,096	Hill York	538,000	1,465,096
Macomber	453,495	Armstrong Cork	340,000	ITT Nesbitt	673,277	1,466,772
Houdaille-Duval-Wright	555,914	Anning-Johnson	296,287	ITT Nesbitt	645,490	1,497,691
Rheem/Dudley	584,989	Anning-Johnson	282,100	ITT Nesbitt	645,490	1,512,579
Houdaille-Duval-Wright	555,914	Luminous Ceilings	497,096	Lennox Industries	489,400	1,542,410
Macomber	453,495	Luminous Ceilings	497,096	ITT Nesbitt	640,701	1,591,292
Houdaille-Duval-Wright	555,914	Armstrong Cork	364,000	ITT Nesbitt	673,277	1,593,191
Houdaille-Duval-Wright	555,914	Luminous Ceilings	497,096	ITT Nesbitt	640,701	1,693,711
Rheem/Dudley	584,989	Luminous Ceilings	497,096	ITT Nesbitt	640,701	1,722,786

BID BREAKDOWN PER SCHOOL

SCHOOLS IN PROGRAM 1-A	SCHOOL DISTRICT	STRUCTURE	(3)Cost Sq. Ft.	LIGHTING/CEILING	(4)Cost Sq. Ft.	AIR CONDITIONING	(4)Cost Sq. Ft.	ADJUSTED AREA (5)	(6)Cost Sq. Ft.	TOTAL
Bradford Middle School	Bradford	$60,357	$1.64	$45,316	$1.30	$80,441	$2.31	35,700	$5.21	$186,114
Pinewood Elementary School	Brevard	Alt.2,303) 44,067)	1.61	33,131	1.23	46,058	1.70	27,225	4.61	125,559
Orange Park High School	Clay	57,648	1.97	40,055	1.33	62,962	2.09	30,000	5.35	160,665
East Naples Middle School	Collier	116,584	1.54	102,320	1.49	129,928	1.88	72,825	4.79	348,832
Moore Haven Ele. School	Glades	88,026	1.56	69,941	1.53	86,286	1.89	52,856	4.62	244,253
Library & 12CR Ad. Ocala High	Marion	33,419	1.54	30,641	1.90	32,850	2.04	19,650	4.93	96,910
West Nassau Co. High School	Nassau	51,091	1.73	42,596	1.44	50,874	1.72	26,500	5.45	144,561
	TOTAL	$453,495		$364,000		$489,400		$264,826	4.93	$1,306,895

(1)Lowest Compatible Grouping
(2)Apparent Low Bidders
(3)Cost per square foot of Roof Area
(4)Cost per square foot of Enclosed Building
(5) Adjusted Total Square Foot per Building. All Enclosed areas counted as unit, all unenclosed areas, roof overhangs, etc., counted as half unit.
(6) Cost per square foot, Adjusted Area

The following table presents the lump sum prices broken down into individual "per school" prices and "per square foot" prices. Bidders were required to furnish this information along with their lump sum bid. Some schools have no prices under some of the categories. The various project architects optioned to receive, or not receive, prices on the several categories.

SSP – PROGRAM 2
STATE DEPARTMENT OF EDUCATION
"PER-SCHOOL" BUILDING SUB-SYSTEMS TABULATION
BIDS TAKEN AUGUST 23, 1968

SCHOOL	STRUCTURE No.1	HVAC No.2	LIGHTING/ CEILING No.3	INTERIOR PARTITIONS No.4	SUB TOTAL 4 SYSTEMS (H) ONLY		CABINETS No.6	CARPET No.7	PER SCHOOL TOTAL
EDWARDS ROAD HIGH ADD'N	120,350 □' $1.308/□' $157,433.00	$1.52/□' $180,670.00	$0.836/□' $100,620.00	NONE	$438,723.00	BUILDING SUB-SYSTEM NO.5 – ROOFING OMITTED	$54,656.00	5,780 yds $7.55/yd $43,639.00	$537,018.00
ELEM "I" PALM BEACH	42,825 □' $1.225/□' $52,475.00	$1.79/□' $75,820.00	$0.991/□' $42,479.00	$54,039.50 (H) $ 5,707.00 (BT) $ 2,552.00 (M) $62,298.50	$224,813.50		$59,647.00	2800 yds $7.55/yd $21,140.00	$305,600.50
WILKINSON ROAD SCHOOL ADD'N	24,500 □' $1.314/□' $32,183.00	$1.63/□' $31,490.00	$0.728/□' $17,849.00	$9,058.00 (M) $7,153.50 (H) $16,211.00	$88,675.50		NONE	NONE	$88,675.50
FRUITVILLE ELEM ADD'N	25,200 □' $1.406/□' $35,424.00	$2.10/□' $48,070.00	$0.972/□' $24,513.00	$ 4,914.50 (H) $ 9,236.00 (M) $ 1,011.00 (BT) $15,231.50	$112,921.50		NONE	NONE	$112,921.50
ALTA VISTA ELEM ADD'N	16,600 □' $1.269/□' $21,059.00	$1.83/□' $32,990.00	$1.067/□' $17,719.00	$18,835.50 (H)	$90,603.50		NONE	NONE	$90,603.50
BRENT-WOOD ELEM ADD'N	21,650 □' $1.368/□' $29,616.00	$2.19/□' $41,130.00	$0.959/□' $20,620.00	$945.00 (BT) $13,792.00 (M) $17,236.50 (H) $31,973.50	$108,602.50		NONE	1650 yds $7.55/yd $12,457.50	$121,060.00
PHILLIPI SHORES ELEM AD'N	22,500 □' $1.297/□' $29,190.00	$1.50/□' $32,160.00	$0.905/□' $21,400.00	$1,394.00 (BT) $11,161.00 (M) $10,982.50 (H) $23,537.50	$93,732.50		$17,600.00	2,250 yds $7.55/yd $16,987.50	$128,320.00
ELLENTON-PARRISH ELEM	39,000 □' $1.312/□' $51,559.00	$1.69/□' $56,570.00	$0.618/□' $24,102.00	$5,617.00 (BT) $9,017.00 (M) $6,403.50 (H) $19,037.50	$138,634.50		NONE	3,890 yds $7.555/yd $29,369.50	$168,004.00
JR-SR HIGH FT. WALTON BEACH	174,200 □' $1.215/□' $211,672.00	$1.31/□' $237,190.00	$0.648/□' $112,953.00	$46,254.00 (BT) $130,604.00 (H) $176,858.50	$692,419.50		$63,278.00	10,450 yds $7.55/yd $18,897.50	$834,595.00
TOTALS	$620,611.00	$736,030.00	$382,255.00	$363,984.00			$195,181.00	$202,491.00	$2,510,612.00
			TOTALS (H) ONLY	$250,170.00	$1,989,126.00				$2,386,798.00

H = HAUSERMAN CO.
BT = BUCK TAYLOR SALES (NEWCASTLE PROD. INC.)
M = MALONE PRODUCTS CORP.

The six building sub-systems (the complete building sub-system bidding package in Program 2) nominated to the project architects and to their school boards for acceptance are listed below.

NOMINATED BIDDERS & LUMP SUMS

SYSTEM NUMBER	SYSTEM	BIDDER	PRICE
1	STRUCTURE	MACOMBER, INC.	$630,611.00
2	HVAC	HILL YORK SALES CORP.	$736,090.00
3	LIGHTING-CEILING	ANNING-JOHNSON CO.	$382,225.00
4	INTERIOR PARTITIONS		
	A. DEMOUNTABLE	E. F. HAUSERMAN CO.	$250,170.00
	B. OPERABLE PANEL,	MALONE PRODUCTS CORP.	$ 54,816.00
	C. OPERABLE ACCORDN	BUCK TAYLOR MFGR SALES *	$ 58,998.00
5	ROOFING	[OMITTED PRIOR TO BIDDING- NO BIDDER INTEREST]	
6	CABINET	EDUCATORS MFG. CO.	$195,181.00
7	CARPET	DON MYERS & ASSO., INC.	$202,431.00
		TOTAL	$2,510,582.00

* MODERNFOLD

The following table compares to first three building sub-systems from Program 1-A with the same three sub-systems in Program 2. Three additional sub-systems were bid in Program 2 that were not bid in Program 1-A, therefore, no comparison is available for these three. In the ten months time, October 1967 to August 1968, between biddings the *Building Cost Index rose approximately 5%. This rising condition was very evident in Florida during the ten month period. The comparison indicates a marked reduction in cost during a rising market. When the volume of work is of sufficient size, greater interest is developed among bidders and intense competition is evidenced. At the same time the educational community, the Owner/user, gets all of the performance desired and specified from the end product. THIS IS SIGNIFICANT TODAY.

A COMPARISON OF PROGRAM 1A & PROGRAM 2 BIDS

OCTOBER 12, '67 BIDS		AUGUST 23, 1968 BIDS		DIFF.	DIFF. LESS 4% SALES TAX	RISE IN BLDG COST INDEX *	TOTAL % DIFF. BETWEEN BIDS
ROOF AREA 5'x5' PLANNING GRID 278,900 □'		ROOF AREA 5'x5' PLANNING GRID 486,825 □'					
1. STRUCTURE	$1.626/□'	1. STRUCTURE	$ 1.275/□'	20% ↓	16% ↓	5% ↑	21% ↓
2. HVAC	$1.754/□'	2. HVAC	$ 1.512/□'	13.8% ↓	9.8% ↓	5% ↑	14% ↓
3. LIGHTING-CEILING	$1.305/□'	3. LIGHTING-CEILING	$ 0.785/□'	55.2% ↓	51.2% ↓	5% ↑	56.2 ↓
TOTAL	$4.675/□'	TOTAL	$ 3.572/□'	22.8% ↓	18.8% ↓	5% ↑	23.8 ↓

TEN MONTHS AND A 23.8% CHANGE DOWN IN A RISING MARKET IS WORTHY OF NOTE.

*SCHOOL MANAGEMENT